

5. MITIGATION PROGRAM

5.1 INTRODUCTION

What is the Mitigation Program?

Construction and operation of the 14-mile Green Line Monorail Project will result in a number of potential impacts to the environment. These potential impacts – to transportation, historic and cultural resources, water quality, and other areas of the environment – were identified, analyzed, and disclosed in this EIS, along with possible mitigations. Based on this analysis of those potential impacts and mitigations, SMP has identified and further articulated a number of mitigation measures that will be implemented through a Mitigation Program as the Green Line is designed, constructed and operated.

The Mitigation Program includes strategies to reduce the impact of construction by reaching out to local residents and businesses and coordinating lane closures and traffic revisions with the City and Metro; minimizing impacts on historic resources; mitigating changes to access or traffic flow; and implementing environmentally sustainable measures to minimize the Monorail's overall impact on the environment through the use of renewable energy, recycled materials, and careful design. The Mitigation Program is comprised of mitigation measures, along with timing, responsibility and monitoring of these measures to ensure effective and timely implementation.

This chapter summarizes the measures contained in the Mitigation Program to date. A chart of mitigation measures summarizing information on when each measure would be implemented and identifying the lead for implementing each measure is included in Appendix CC. While this appendix is intended to be consistent, to the extent there is any inconsistency, the chapter controls.

The mitigation measures identified in this chapter are based primarily upon the Preferred Alternative presented in this Final EIS. As such, mitigation measures may need to be updated or refined in the event that other alternatives are selected for implementation. However, as mitigation measures have been defined based on overall guidelines for impacts, and as information on potential impacts is fully disclosed in Chapter 4 of this Final EIS, the mitigation measures outlined in this chapter are illustrative of similar measures that would be implemented – focused on identified potential impacts – for other alternatives.

The Mitigation Program will evolve and become more specific over time. The mitigation measures presented in this Final EIS are the result of environmental analysis conducted for the EIS, as well as design, engineering, and operational studies. As the Project moves further into design and permitting, more specific mitigation measures will be developed, and a final package of mitigation measures will be agreed upon with the City and other permitting and regulatory agencies as part of the permits needed to construct the Green Line. More detailed plans for monitoring the implementation of mitigation measures will also be developed at that time.

How was the Mitigation Program Developed?

Potential impacts from construction and operation of the Green Line, along with potential mitigation measures were identified in the process of developing this Final EIS, which studied more than 50 potential Monorail alignment alternatives for their impact on a number of environmental areas.

Mitigation measures to address these impacts were then further developed by SMP through the analysis conducted for the EIS, as well as additional operational and engineering studies conducted to develop a Request for Proposals for the Design-Build-Operate-Maintain (DBOM) contractor team that will construct and operate the Green Line. In addition, ongoing discussions and meetings with the City,

residents, businesses, and property owners along the alignment, and with stakeholders from permitting and regulatory agencies helped SMP develop appropriate mitigation strategies to address specific impacts. These mitigation measures were then consolidated into a Mitigation Program with information about timing, monitoring, and responsibility for each measure.

Because sustainability is an important priority for SMP, mitigation measures were also evaluated for their contribution to the Project's sustainability goals, including mobility, pollution prevention, universal access, community investment, habitat protection, minimization of resource consumption, and human health protection.

What Will Happen Next?

Following the release of this Final EIS, mitigation measures for the Green Line will be further refined and detailed. As the Mitigation Program evolves and becomes more specific, it, or relevant parts of it, will be included as an integral component in, or appropriately referenced in, a number of other key policy documents:

- The U.S. Coast Guard's Record of Decision on the Project
- Agreements with the City of Seattle, King County Metro Transit, and other regulatory and permitting agencies
- Master Use Permit Applications and the permits themselves
- Guideway Permit Applications and the permits themselves

5.2 OUTLINE OF DRAFT MITIGATION PROGRAM

Mitigation measures have been organized by substantive area so that they can be most easily identified and monitored.

Within each substantive area, mitigation measures have been organized into:

- General Mitigation Measures
- Geographically Specific Mitigation Measures by Segment

The list of draft mitigation measures includes:

Transportation

Transportation mitigation measures are discussed in Section 5.4.1. Measures in this area include strategies to:

- Optimize multi-modal station access;
- Minimize impacts to traffic flow, suggesting a menu of potential mitigation measures for different conditions;
- Respond to concerns about parking availability; and
- Provide safe and convenient access to and from Monorail stations for pedestrians, bicyclists, and persons with disabilities.

Displacements and Relocation

Displacements and relocation mitigation measures are discussed in Section 5.4.2. Mitigation measures implemented to address displacements and relocation will be consistent with SMP's Real Property Acquisition and Relocation Policies, and include:

- Relocation for property owners and qualified tenants; and
- Housing assistance as needed for extremely low-income tenants.

Land Use and Neighborhoods

Land Use and Neighborhoods mitigation measures are discussed in Section 5.4.3. No significant unavoidable adverse impacts to land use plans and neighborhoods have been identified, although potential impacts to several specific venues at Seattle Center will be mitigated and impacts to certain neighborhoods will be mitigated in station design.

Economics

No significant adverse long-term impacts to economics have been identified due to operation of the Green Line. A detailed list of mitigation measures to address potential impacts of construction of the Green Line – including a comprehensive outreach program – is included under Construction Mitigation, Section 5.5.

Visual Quality and Aesthetic Resources

Mitigation measures to address visual quality and aesthetic resources are discussed in Section 5.4.4. Mitigation measures in this area include tools to ensure that the Monorail and its facilities complement existing neighborhood aesthetics, including:

- Overall review and recommendations from the Monorail Review Panel;
- Design Guidelines developed in concert with stakeholders;
- Replanting of street trees and other vegetation and landscaping per Design Guidelines;
- Shielding of station and facility lighting; and
- Minimization of structural bulk.

Air Quality

Operation of the Green Line would not have significant adverse air quality impacts, and would likely improve overall air quality. SMP will implement mitigation measures (discussed below in Section 5.5, Construction Mitigation) to ensure that the construction process does not worsen air quality.

Noise and Vibration

Studies indicate that the operation of the Green Line will not result in vibration impacts provided that columns are located an adequate distance from sensitive buildings, as SMP proposes. Mitigation of potential vibration impacts resulting from construction is discussed below in Section 5.5, Construction Mitigation.

Operational noise impacts also may be avoided depending upon train car construction and location of the guideway. If noise impacts cannot be avoided, mitigation measures would include a variety of tools to

shield stations and/or train cars, reduce speeds in sensitive areas, and/or shield sensitive buildings such as residences. Mitigation measures for noise impacts resulting from operation of the Green Line are discussed in Section 5.4.5. Mitigation measures for noise impacts resulting from construction are discussed in Section 5.5.

Energy

Mitigation measures related to energy use are discussed in Section 5.4.6. Appropriate and conservative use of energy by the Green Line is proposed to be achieved through incorporation of relevant City and State energy codes, as well as through electricity conservation measures.

Public Services and Utilities

Mitigation measures related to public services and utilities are discussed in Section 5.4.7. In this area, mitigation measures include strategies to:

- Minimize the impact of the Green Line on emergency response times;
- Maximize access to public services;
- Enhance public safety at stations and other Monorail facilities; and
- Minimize impacts to utilities during the construction process, and optimize coordination with the City and other utilities.

Parks and Recreation

Mitigation measures related to parks and recreation are discussed in Section 5.4.8. The Mitigation Program for parks and recreation includes strategies to minimize visual impacts to public parks and open spaces.

Cultural Resources

Mitigation measures for cultural resources to address impacts related to operation of the Green Line are discussed in Section 5.4.9. Additional mitigation measures related to construction are discussed in Section 5.5. Mitigation measures in this area include a number of alignment-wide strategies to identify and catalog archaeological and historical resources, as well as community-specific strategies that include:

- Development of a comprehensive program with research, Internet resources, and a professionally prepared tour of historic resources linked by the Green Line;
- Development of a Memorandum of Agreement with the State of Washington Historic Preservation Officer and City of Seattle Historic Preservation Officer.
- Monitoring during construction in potentially sensitive areas with specific procedures for treatment of any artifacts encountered; and preconstruction review of sensitive and extremely sensitive historic buildings with specific procedures for avoiding and addressing construction impacts. Mitigation of potential impacts related to construction is discussed below in Construction Mitigation, Section 5.5.

Environmental Health

Mitigation measures related to environmental health are discussed in Section 5.4.10. In this area, mitigation will focus on health and safety related to hazardous materials that may be exposed during construction or used during operation of the Green Line. Mitigation measures will include

comprehensive identification, tracking, handling, and disposal of hazardous materials. Mitigation measures related to the identification and treatment of hazardous materials during construction is discussed below in Construction Mitigation, Section 5.5.

Earth

Mitigation measures related to earth are discussed in Section 5.4.11. Mitigation measures in this area will include adherence to seismic standards as well as minimization of landslide risk.

Water Quality

Mitigation measures related to water quality are discussed in Section 5.4.12. To preserve water quality, mitigation measures will include:

- Flow control mitigation per regulations; and
- Detention facilities as required per building codes
- Compliance with applicable water quality regulations.

Plants and Animals

Mitigation measures related to plants and animals are discussed in Section 5.4.13. Mitigation measures in this area will focus on restoring or replanting any displaced street trees, vegetation, or habitat. Particular focus will be on measures to minimize impacts to aquatic habitat during construction of the Ballard Crossing.

Cumulative Impacts

Mitigation measures related to cumulative impacts during construction are discussed in Section 5.5. SMP will work with other agencies to ensure that Green Line construction and operation is coordinated with other major projects throughout the region and that impacts are minimized.

Construction

Mitigation measures for impacts in all areas of the environment that could occur during construction are discussed in Section 5.5. Prior to and during construction, SMP will implement a number of mitigation measures to reduce the impacts of the construction process. Mitigation measures will include:

- Extensive and comprehensive outreach to nearby businesses and residents;
- Traffic control and traffic, pedestrian, and bus safety measures;
- Coordination with the City on needed lane closures and traffic rerouting;
- Air quality mitigation, including the use of low-sulfur fuels;
- Minimization of noise and vibration, access and visual impacts from construction activities and materials and phasing of construction to minimize impacts on businesses and residents;
- Comprehensive safety and quality control programs throughout the construction process;
- Stormwater and runoff controls and policies.

5.3 IMPLEMENTATION OF MITIGATION PROGRAM

The mitigation measures identified for the Green Line in this Mitigation Program will be implemented by SMP as the project is designed, constructed, and operated. These mitigation measures are now incorporated into the definition of the project, and SMP will implement them, provide funding for their implementation, or ensure that other agencies fund and implement them (although this would not alleviate SMP's overall responsibility for implementation). SMP is prohibited from withdrawing or substantially changing any of the mitigation measures identified in the environmental record for the project without express written approval by relevant permitting agencies. In addition, any change to the project that may involve new or changed environmental or community impacts not yet considered in the existing environmental record must be reviewed in accordance with NEPA and SEPA environmental procedures.

Mitigation measures associated with the operation of the project are described in Section 5.4 of this document. Mitigation measures associated with the construction of the project are described in Section 5.5. The program for monitoring the implementation of the mitigation measures is described in Section 5.6.

Appendix CC provides a summary chart that lists all mitigation measures, indicates when each measure would be implemented, and identifies the lead for implementation for each measure.

5.4 OPERATIONAL/LONG-TERM MITIGATION

5.4.1 Transportation

5.4.1.1 *Mitigation Measures Common to all Segments*

To improve non-motorized access to the Monorail and to optimize connections to other forms of transit, SMP will work with Metro, other local public transportation agencies, communities and local governments to locate and design Monorail stations that fit with local community plans and that provide convenient access to other modes of transportation. These facilities will include improvements directly related to the Green Line or resulting from impacts caused by the Green Line. New sidewalks will be provided on or immediately adjacent to Monorail stations. At a minimum, existing sidewalk widths will be maintained and any improvements will be sufficiently wide to accommodate pedestrian volumes resulting from the Monorail and will be designed to conform to City standards. SMP will provide access for bicycles at stations, will allow bicycles on trains, and will provide bicycle parking at stations (it should be noted that, in general, bicycles are considered part of traffic flow, except where there is a designated bicycle lane in the vicinity of a station). In addition, SMP will implement mitigation measures to address the following transportation features:

Multi-Modal Station Access

SMP will design stations following the goals and principles outlined in the Design Guidelines (see below, Section 5.4.4 for more information on the Design Guidelines) that provide safe and convenient access for buses, pedestrians, bicyclists, autos, and persons with disabilities. Specific measures provided for each station will be based on bus route patterns, projected ridership volumes, street layout, and existing pedestrian paths and bicycle routes in the station vicinity. Criteria for station access include:

- Determine a clear path for pedestrians to access the stations, as well as for pedestrians walking along the sidewalk but not accessing the station. This path should be clear of bicycle parking or transit queuing areas.

- Determine station entries in relation to this clear pathway and to existing pedestrian infrastructure.
- Determine a clear path for bicyclists to access the stations and station bicycle parking facilities.
- Determine the path by which pedestrians may transfer between Monorail and bus transit. This path should work with other planned circulation paths and not leave riders waiting for transit in other established pathways.

SMP will provide sidewalk improvements to improve pedestrian connectivity to the Green Line. All sidewalks abutting station sites will be repaired or replaced. All connecting crosswalk ramps on facing streets from stations will be repaired or replaced as necessary for safety. SMP has also surveyed all missing sidewalk sections within one-half mile from the station and will repair or install sidewalks to the extent the Green Line project would create significant safety or capacity impacts. A one-quarter mile survey, which is transportation industry standard, was included in the Draft EIS.

In addition, SMP will work with the City to identify other areas within one-half mile from stations where sidewalk improvements could be desirable to further SMP, City planning, and neighborhood goals along major pedestrian routes. A specific list of these locations will be created by SMP, with input from the City, and will be referenced in the Transitway Agreement. Some of these additional sidewalk improvements could be accomplished as access and design enhancements at initial construction. Other segments could be added to the project access and design enhancements for consideration by the Monorail Monitor and Maintain Working Group for implementation on an ongoing basis.

Other mitigation measures to be implemented include:

- Develop and implement a Service Redeployment Plan with Metro to provide good Metro bus service interface with Monorail stations.
- Work with the City and Metro to identify appropriate on-street locations and circulation routes for bus stops, bus layover zones, and zones for paratransit, taxi and private automobile drop-off at Monorail stations. New, improved or modified bus shelters, curbs, sidewalks, curb markings, signage, and pavement thickness will be identified in Final Construction Plans approved by the City and will be constructed by SMP.
- Provide bus stops at or near Monorail stations using existing bus stops to the maximum extent possible to facilitate bus/Monorail connections and provide easy access for passengers. Specific details for bus stop locations near Monorail stations will be determined in Master Use Permit (MUP) agreements, and a reevaluation and re-design of all other bus stops along the Green Line will be negotiated with City and Metro staff.
- Where needed or required for good bus/Monorail connections, provide bus layover zones at or near Monorail stations using existing layover zones to the maximum extent possible to facilitate bus/Monorail connections and provide easy access for passengers. Specific details for bus layover zone locations will be determined in MUP agreements.
- Provide pedestrian facilities at each station that meet or exceed ADA standards (per RFP for DBOM contractor) to provide safe and convenient access for people with disabilities, as well as those with strollers, luggage or bicycles.
- Develop and implement design features to assist with station accessibility for people with disabilities, including but not limited to platform edge tactile warning strips, tactile train boarding zone indicators, way finding tactile paths, and Braille station and system information panels.

- Provide sidewalks at each station frontage to provide safe and convenient access for Monorail passengers.
- Install curb ramps across from each Monorail station in areas where no curb ramp currently exists to provide safe and convenient access to Monorail stations.
- Provide bicycle parking facilities at each station to provide safe and convenient access for people with bicycles and to provide convenient bike/Monorail connections.
- Provide bicycle access at all stations, with stations designed to provide room for bikes to maneuver.

Traffic Flow and Freight Mobility

SMP will design and construct the Green Line so as to minimize impacts to traffic flow and freight mobility. To examine potential impacts to traffic flow and devise mitigations for these impacts, SMP identified each intersection along the Green Line route at which Level of Service would change by 2010 with the Monorail from A, B, C, or D to E or F and/or where average intersection delay would increase by more than five seconds. These intersections are identified below, within their geographic segments, and mitigation measures are proposed for each. Mitigation measures differ based on the critical turning movements affected, as well as by the overall conditions at the intersection. Mitigation measures could include adding or changing a traffic signal, providing a right- or left-turn lane, providing U-turn capability, or committing to certain types or locations for column placement. In addition, where column location could affect access, traffic flow, or freight mobility, it is noted and mitigation measures – such as committing to alternative access or to specific column locations or to provide offset columns to move columns away from the street right-of-way – are listed.

SMP will be responsible for resynchronization of traffic signals when the need for resynchronization is a direct result of relocation or change in signalization related to Monorail construction and/or operation.

- Place columns so as to, where possible, avoid loading docks, facilitate sight distance, and maintain turning maneuvers to minimize potential impacts to vehicle access and circulation and avoid impacts to businesses. Where column placement causes impacts to access, provide alternate access as needed.
- Provide mitigation when guideway height limits the sight distance to a traffic signal. Mitigation measures may include lowering or moving the existing signal head or providing redundant signals at the side of the street.
- Design guideways and stations to appropriate City standards, including physical separation or buffers between guideway columns and travel lanes, clear signing, and directional signs at stations to maintain safe traffic flow near Monorail facilities.
- Relocate parking and traffic signs along the alignment as needed to provide for safe and efficient traffic flow.
- Provide new traffic signs to facilitate traffic flow and wayfinding as needed, per agreement with City.
- Replace street lighting that must be removed for construction or column or station placement. Develop and implement a plan in coordination with the City to provide additional lighting in and around stations and, as needed, under the guideway.
- Remove existing driveways to which access would no longer be provided because of the placement of Green Line columns or facilities (such as at the Sinking Ship Garage in Pioneer Square) and recreate curbs and sidewalks in these areas.

- Provide new curbs, medians, or barriers around all columns that are placed within the existing curb-to-curb width of a street to provide for safe and efficient traffic flow.
- Modify signals affected by lane reconfiguration or guideway impacts, reusing existing signal equipment to the extent possible. Details for signal modifications to be negotiated with the City of Seattle Department of Transportation (SDOT) for each affected signal.

Pedestrian Safety

- Provide new paint striping and crosswalks for all affected streets where curbs or lane configurations have been changed to provide safe and convenient access for Monorail passengers and safe and efficient traffic flow.
- Provide new curb ramps at all curb returns directly affected by Monorail construction to provide safe and convenient access for pedestrians and persons with disabilities.
- Provide new curbs and sidewalks where the existing curb line is moved relative to its existing location (with existing curbs remaining in place to the extent possible) to provide for safe and convenient pedestrian access.
- Provide shortened pedestrian crossings at all intersections where columns are placed in the existing parking lanes or in the travel lane next to the existing curb to provide for safe and convenient pedestrian travel.
- Provide median pedestrian refuges at crossings at which columns are located in the center of the street to provide for safe and convenient pedestrian travel.
- Determine whether existing signals need to be re-timed to make pedestrian crossings easier and safer.

5.4.1.2 Geographically-Specific Mitigation Measures

BALLARD

Parking

- Fund survey and signage expenses within a quarter-mile area of the Crown Hill, NW 65th, and NW Market stations to establish Residential Parking Zone and/or time-limited parking to aid businesses and to avoid the use of station areas for hide and ride parking by Monorail passengers. These parking zones will be established by the start of revenue operations and will be monitored through the use of traffic counts after six months of operation.
- Provide initial curbing for parking that would be available all day (though time-limited) between guideway columns on the west side of 15th Avenue NW and along the east side of the street to provide partial replacement parking for parking displaced by Monorail columns.

Traffic Flow and Freight Mobility

- **Intersection of NW 85th Street and 15th Avenue NW:** Optimize signal timing at the 15th Avenue NW/NW 85th Street intersection if warranted, per agreement with SDOT, to avoid possibility for LOS F condition during p.m. peak hour by 2020. Provide northbound right turn lane to aid critical turning movement.
- **Intersection of NW 80th Street and 15th Avenue NW:** Provide northbound right turn lane to facilitate traffic flow and aid critical turning movement.

- **Intersection of NW 65th Street and 15th Avenue NW:** Optimize signal timing if warranted, per agreement with SDOT, to avoid potential for LOS F condition during p.m. peak hour in 2020.
- **Intersection of NW Market Street and 15th Avenue NW:** Provide southbound right turn lane to aid critical turning movement.

Pedestrian Safety

- Provide new curbs around Monorail columns, and sidewalk extensions and ramps on the west side of 15th Avenue NW along the Monorail alignment.

Multi-Modal Station Access

- In conjunction with City of Seattle and Metro, identify bus stops and bus layover zones (where needed) for the Crown Hill, NW 65th Street, and NW Market Street stations.
- As noted above, provide sidewalks with curb cuts adjacent to the stations at Crown Hill, NW 65th Street, and NW Market Street stations.

INTERBAY/MAGNOLIA

Parking

- Fund survey and signage expenses within a quarter-mile area of the Dravus station to establish a Residential Parking Zone and/or time-limited parking to aid nearby businesses to avoid the use of the station area for hide and ride parking by Monorail passengers. The parking zone will be established by the start of revenue operations and will be monitored through the use of traffic counts after six months of operation.
- Provide initial curbing for parking that would be available all day (but time-limited) between guideway columns on the west side of 15th Avenue W to provide partial replacement parking for parking displaced by Monorail columns.

Traffic Flow and Freight Mobility

- **Intersection of W Dravus Street and 16th Avenue W:** In conjunction with the City of Seattle and Metro, investigate conversion of 16th Avenue W to a one-way southbound street south of S Dravus Street, and provide improved turning radii for buses on 16th and 17th Avenues West. Work with Metro and City to determine need for a signal or other traffic control measure at the intersection of W Dravus Street and 17th Avenue W to facilitate bus movement and access to the Dravus Station.
- **Intersection of W Prospect Street and 15th Avenue W:** Install signage to allow for U-turn movements of passenger vehicles to permit better traffic flow around and through the area and access to businesses.
- **Intersection of W Lee Street and Elliott Avenue W:** Install a new signal to provide for U-turn and left-turn capability and to ease freight mobility.
- **Intersection of W Mercer Place and Elliott Avenue W:** Install signage to allow for U-turn movements of passenger vehicles to permit better traffic flow around and through the area and access to businesses. In addition, provide offset columns so that a southbound, double left turn lane from Elliott Avenue W to W Mercer Place can be created. The northbound left/U-turns could be restricted during the p.m. peak to mitigate the LOS impact at the intersection. Also provide signal reconfiguration as required.
- Provide new curbs along the center median on Elliott Avenue W.

- Complete construction of Mercer Street from Sixth Avenue W to Elliott Avenue W as part of Green Line construction.

Pedestrian Safety

- Provide new curbs around Monorail columns, and sidewalk extensions and ramps on the west side of 16th Avenue W along the Monorail alignment.
- Provide pedestrian improvements along W Dravus Street and wayfinding improvements.
- Provide new curbs around Monorail columns, sidewalk extensions, and ramps on the west side of the street on 15th Avenue W along the Monorail alignment.
- Provide median pedestrian refuges at signalized intersections between columns in the center of Elliott Avenue W.

SEATTLE CENTER/QUEEN ANNE/BELLTOWN

Pedestrian Safety

- Provide new curbs around Monorail columns, sidewalk extensions, and ramps on the south side of W Harrison Street along the Monorail alignment.
- Provide widened sidewalks on the east and west side of Fifth Avenue N between Broad Street and Denny Way and on the west side of Fifth Avenue along the Monorail alignment through Belltown, new curbs around Monorail columns, and curb ramps on the west side of the street.

Multi-Modal Station Access

- Create a primary, at-grade pedestrian connection from the Fifth and Broad Station to Seattle Center. Improve the visual connection from the new station to the north side of the Fifth and Broad intersection. Enhance an existing, at-grade pedestrian pathway on the north side of Broad Street connecting to Thomas Street to provide safe, direct and convenient at-grade crossings, handle event flows, and reinforce Seattle Center entrances.
- Enhance an existing, at-grade secondary pedestrian crossing for the Fifth and Broad Station at John Street across Broad Street to the Space Needle area to provide safe, direct and convenient at-grade crossings, handle event flows, and reinforce Seattle Center entrances.
- Create transit connections at the Queen Anne/Seattle Center (Key Arena) Station that respect the corner of First Avenue N and Republican Street as a new and open entry to the Seattle Center campus, as well as to the Monorail station to reinforce that entry to Seattle Center and recognize the station as an event station.
- Create bicycle parking in proximity to the Queen Anne/Seattle Center (Key Arena) Station that respect the corner of First Avenue North and Republican Street as a new and open entry to both the Seattle Center campus and new station to provide adequate bicycle parking facilities without interrupting good pedestrian circulation.
- Provide replacement load/unload parking as necessary in proximity to the Queen Anne/Seattle Center (Key Arena) Station to provide load/unload facilities for users of the station and the replacement Northwest Rooms.

Traffic Flow and Freight Mobility

- Remove columns and guideways from existing Seattle Center monorail in the center of Broad Street at Fifth Avenue and along Fifth Avenue from Broad Street to Stewart Street to improve visibility and turning ability.

DOWNTOWN/PIONEER SQUARE

Multi-Modal Station Access

- Include in station design process and MUP application an elevated walkway between the Fifth and Stewart Monorail station and Westlake Center, dependent on agreement with City of Seattle and other stakeholders.

Pedestrian Safety

- Provide the following pedestrian amenities on Stewart Street: between Second and Third Avenues, provide sidewalk extensions, new curbs, and ramps on the south side of the street. Between Third and Fourth Avenues, widen sidewalks on the north side of the street. Widen the pedestrian refuge between Olive Way and Stewart Street. Between Fourth and Fifth Avenues, provide sidewalk extensions, new curbs, and ramps on the south side of the street.
- On Second Avenue, provide new curbs on the west side of the street around Monorail columns, and sidewalk extensions and new curb ramps on the west side of the street.

Traffic Flow and Freight Mobility

- Reconstruct the median on Stewart Street along the Monorail alignment.
- Maintain, relocate, or preserve for reuse the existing granite curbs in the Pioneer Square Historic District.

Parking

- Provide initial striping and curbing for time-limited parking between guideway columns on the west side of Second Avenue, except where bus stops are located. Replace parking payment technology per existing conditions (parking meters or payment kiosks), reusing equipment to the extent possible.

SODO/CHINATOWN INTERNATIONAL DISTRICT/PIONEER SQUARE

Multi-Modal Station Access

- Improve intermodal access in the Weller/King area to provide convenient access to the Weller pedestrian bridge and transit stations. Consider development plans for the stadium north lot in terms of access to the Weller Station.
- Complete missing sidewalk segments on Third Avenue S between S Royal Brougham Way and the Safeco Monorail station to provide for safe and convenient pedestrian access to Monorail stations.

Pedestrian Safety

- Provide new curbs on the west side of Utah Avenue S around columns north of S Forest Street.

Traffic Flow and Freight Mobility

- Provide long-span structures on Utah Avenue S and S Horton Street to facilitate truck turning movements.
- Provide barrier type curb/protection around Monorail columns (where curbs and sidewalks do not exist) to accommodate truck loading and turning movements.

WEST SEATTLE

Parking

- Fund survey and signage expenses within a quarter-mile area of the Avalon, Alaska Junction, and Morgan Junction stations to establish Residential Parking Zones and/or time-limited parking to aid businesses to avoid the use of station areas for hide and ride parking by Monorail passengers. These parking zones will be established by the start of revenue operations and will be monitored through the use of traffic counts after six months of operation.
- Provide initial curbing for parking that would be available all day (though time-limited) between guideway columns on the north side of SW Alaska Street and along the south side of the street to provide partial replacement parking for parking displaced by Monorail columns.
- Provide initial curbing for parking that would be available all day (though time-limited) between guideway columns on the west side of California Avenue SW and along the east side of the street to provide partial replacement parking for parking displaced by Monorail columns.

Multi-Modal Station Access

- **Intersection of SW Spokane Street and 26th Avenue SW:** Provide a traffic signal to provide for bus access to Delridge station.
- **Intersection of SW Oregon Street and 35th Avenue SW:** Provide a new pedestrian signal at this intersection to provide safe pedestrian access to the Monorail station.
- Provide new curbs around columns, sidewalk extensions, and ramps on the north side of SW Alaska Street to provide for safe pedestrian access.
- Provide new curbs around columns, sidewalk extensions, and ramps on the west side of the street along 42nd Avenue SW and California Avenue SW along the Green Line alignment to provide for safe pedestrian access.
- Provide a new crosswalk on 42nd Avenue SW to permit safe pedestrian access to the Monorail station.
- **Intersection of Fauntleroy Way SW and California Avenue SW:** Provide U-turn routes for buses so as to better serve the Morgan Junction Station. Examine the necessity of widening side streets for bus layover space. Optimize the traffic signal for pedestrian and bus movements.
- **SW Spokane Street near Nucor:** Modify signalization and grading near the Fire Station to allow bus turn-around. Examine the possibility of reversing the flow of the bus-only lane in this area.
- During the design process, and in the MUP application for the Alaska Junction Station, evaluate technical and cost feasibility of a pedestrian connection between the Alaska Junction Station on 42nd Avenue SW and California Avenue SW.

Traffic Flow and Freight Mobility

- **Intersection of SW Genesee Street and SW Avalon Way:** Provide a new traffic signal with crosswalks at this intersection to provide an opportunity for passenger vehicles to make left on SW Avalon Way and to improve pedestrian access to and from Green Line stations.
- **Intersection of SW Edmunds Street and California Avenue SW:** With the Green Line, this intersection is expected to change from D to E LOS by 2010, but only adding 3.7 seconds of delay. This intersection may require attention, perhaps by optimizing the signal to facilitate pedestrian crossing.
- Provide new curbs in the center median along SW Avalon Way along the Monorail alignment.
- Provide new center barriers along the Monorail alignment on the West Seattle Bridge.

5.4.2 Displacements and Relocation

5.4.2.1 Mitigation Measures Common to all Segments

SMP's adopted Real Property Acquisition and Relocation Policies provide a strong commitment to mitigate the impacts of displacements and relocation. SMP will provide relocation assistance consistent with SMP's Real Property Acquisition and Relocation Policies to all property owners and qualified tenants that must relocate as a result of Green Line acquisitions. SMP will provide housing assistance if extremely low-income tenants to be relocated cannot find adequate housing even with relocation assistance, consistent with SMP's Real Property Acquisition and Relocation Policies.

In addition, SMP will contact all property owners whose property will be directly affected to answer questions and provide additional information about relocation assistance services, payments, and reimbursement eligibility. SMP's relocation assistance advisory services will include, but not be limited to, measures, facilities, or services that may be necessary or appropriate to determine the relocation needs and preferences of each household, business, and nonprofit organization to be displaced. SMP will provide current information on the availability, purchase prices, and rental costs of comparable replacement dwellings.

SMP will work closely and proactively with families and businesses to help them plan ahead for relocation, assist them to find new homes or sites, and help solve problems as they may occur. Interpreters will be used to assist those who do not feel comfortable speaking English to ensure they understand their choices and options. While the ultimate choice of relocation site will be up to the affected family or business, SMP will help with detailed investigation of possible locations. Every reasonable attempt will be made to assist those who wish to remain in their neighborhood in finding a new location close to their current site.

Consistent with its sustainability policies, SMP will investigate cost, schedule, and technical feasibility of offering houses to be displaced to interested parties for relocation by those parties.

5.4.2.2 Geographically-Specific Mitigation Measures

SEATTLE CENTER/QUEEN ANNE/BELLTOWN

- Develop demolition plan and schedule for the existing monorail facilities and demolish per the approved plan and schedule.
- Provide for temporary relocation and long-term replacement of Key Arena office and support facilities.

- Replace Seattle Center Northwest Meeting Room square footage, consistent with Seattle Center design direction and agreements with SMP.
- Enter Overall Financial Agreement with Seattle Center to include compensation for transfer of the existing monorail, lease of property and air rights, and other compensation, as agreed.
- Implement interim replacement public transportation service between Westlake Center and Seattle Center per agreement between SMP and Seattle Center during construction until Green Line service is initiated between Fifth and Broad and Fifth and Stewart stations.

5.4.3 Land Use and Neighborhoods

5.4.3.1 Mitigation Measures Common to all Segments

Construction and operation of the Green Line is not anticipated to cause any significant unavoidable adverse impacts to land use plans or neighborhoods. In several specific cases, specialized uses associated with nearby development could be replaced or relocated to avoid the potential impacts to specific uses (see below for details). Mitigation measures for noise, transportation, and aesthetics relate to land use and neighborhoods and are indicated below under those respective subject areas.

5.4.3.2 Geographically-Specific Mitigation Measures

SEATTLE CENTER/QUEEN ANNE/BELLTOWN

- Replace service and operational facilities needed to support Key Arena, if needed due to displacements so as to allow for services essential to Key Arena's operations to continue.
- Relocate Fun Forest attractions on Seattle Center grounds per agreement with Seattle Center to allow for ongoing operations of the Fun Forest attraction.

5.4.4 Visual Quality and Aesthetic Resources

5.4.4.1 Mitigation Measures Common to all Segments

Excellent design is a key SMP goal. The Green Line will be a significant and prominent structure that contributes to Seattle's landscape, and, as a result, SMP, community members, and the City of Seattle, have and will continue to focus a great deal of attention on design of the Monorail's stations, guideways, columns, and other facilities to ensure that they enhance the unique characteristics of Seattle's changing landscape and City form.

As part of this effort, SMP has developed a set of Design Guidelines, which will be reviewed, revised as needed, and adopted by the City of Seattle. SMP's Design Guidelines are based on the following assumptions:

- The Green Line should reinforce and integrate the unique characteristics of Seattle with a contextual response to form and function.
- The Monorail will be experienced within the City at a full range of scales, from regional to intimate, over time. Therefore, the guidelines are structured to reflect the dynamic scale of the City context to assure design integration at all scales.
- The Monorail and its place in the City should be evaluated using the criteria of placemaking, environment, aesthetics, and function.

The Design Guidelines are based around system-wide goals that apply to all aspects of the Green Line Project at all scales:

- Create a civic identity along the entire Monorail corridor.
- Reinforce awareness of the inherent characteristics of Seattle.
- Integrate the Monorail into the City fabric.
- Reinforce the positive, defining qualities of neighborhoods.
- Use views to and from the Monorail to reinforce civic identity and system legibility.
- Optimize the function of the Monorail as a transportation system.
- Support economic vitality.
- Utilize sustainable practices.
- Achieve urban design goals, principles and criteria within the construction, operation, and maintenance budget.
- Commit to urban design quality by defining those elements the community values and ensuring their implementation through the design and construction of the project.

In addition, in recognition of the fact that the Green Line will become a key part of the landscape, the Design Guidelines include a number of system-wide urban design strategies and strategies to help integrate landscape with the Green Line:

- A context of landscape. The Monorail structure, guideway, piers, and stations should be designed together within a landscape context.
- Responsive to conditions – natural and built. The landscape designed and developed in conjunction with the Monorail should vary in response to its environment.
- Supporting functions of the Monorail and the street. Where the Monorail is located in the middle of a street, the concept for the landscape should consider such aspects as safety, turning movements, visibility from one side to another and the design potential for providing a boulevard with a center landscape. Where the Monorail is located on the side of a street, the concept for the landscape should consider access and visibility to adjacent properties and integrating additional activities such as bus stops, shelters, lighting, kiosks, drop-off and possibly parking. Sidewalks are integral to the function of the Monorail, allowing pedestrians to move between destinations, as well as to and from the stations. The introduction of landscape in the sidewalk environment provides protection from the street traffic, indication of commercial zones, outdoor seating areas, and orientation.
- Landscape presence. Design should consider the fact that the landscape will be interrupted at various points by intersections and driveways and that people experience street corridors in perspective and in movement.
- Landscape and the Monorail structure. The height of the Monorail structure will determine the palette of trees that can be planted under the guideway and will help establish an appropriate scale for plantings.
- “Green” performance value. Introducing landscape along the length of the Green Line supports SMP’s sustainability goals.

SMP will work with the City of Seattle and other stakeholder groups and permitting agencies to ensure that Monorail stations, guideways, and other facilities complement the existing urban streetscape and the communities in which they are located. Specifically, SMP will commit to:

General Design Guidelines and Review

- Work with the Monorail Review Panel, which will review and make recommendations on station and facility design to ensure visual and aesthetic quality in Monorail facilities.
- Finalize Design Guidelines in concert with stakeholders, including the City of Seattle, covering art and design elements, to guide project design issues and to incorporate a balanced approach between system-wide elements and contextual elements.
- Integrate Monorail facilities with area redevelopment plans, as appropriate and determined by SMP and the City, to ensure that Monorail facilities complement their urban context.
- Incorporate City liaison in Monorail guideway design and aesthetics development process during DBOM limited notice to proceed, and provide for opportunities for community input.

Facility Design and Amenities

- Use source shielding in exterior lighting at stations and ancillary facilities, designed and incorporated into facilities per Design Guidelines.

Trees and Landscaping

- Retain or replace existing street trees and vegetation along the Monorail alignment, consistent with Design Guidelines and permitting conditions.

5.4.4.2 Geographically-Specific Mitigation Measures

SEATTLE CENTER/QUEEN ANNE/BELLTOWN

- Seattle Center to participate in and approve design of monorail facilities at Seattle Center, including stations, guideway, columns. Process to occur during design, prior to full Notice to Proceed for DBOM contractor.
- Columns will be architectural features, designed to reflect and integrate with campus architecture. Unless otherwise agreed upon by SMP and Seattle Center, as the guideway crosses from Second to Third Avenues N on Republican Street, to the north of the Fountain lawn, the columns will be a maximum 5-1/2 feet in diameter, the top of the guideway shall be approximately 60 feet, the guideway will maintain a horizontal relationship with the high canopy, and columns shall be approximately 100 feet apart. Column locations shall protect the identified view corridors to the lawn from the north to the greatest extent possible, as determined by SMP and Seattle Center.
- SMP and Seattle Center will continue a Seattle Center Stakeholders' Group for consultation and advice throughout the design and construction process.
- Seattle Center will approve the program and design specifications for replacement facilities for the Northwest Rooms/Key Arena to be built by SMP; Seattle Center will approve design and change decisions affecting replacement facilities during construction.
- SMP will work with Seattle Center and the Fun Forest to redesign and relocate Fun Forest facilities in relation to a new monorail route.

5.4.5 Noise and Vibration

5.4.5.1 Mitigation Measures Common to all Segments

Vibration

No vibration impacts due to operation of the Monorail have been identified and therefore no mitigation measures are needed for vibration, unless Monorail columns are located closer to sensitive buildings than indicated in the EIS and developed in SMP plans, in which case additional study and/or mitigation measures would be required to mitigate vibration impacts. For mitigation measures for vibration impacts during construction, please see Section 5.5, Construction Mitigations.

Noise

Environmental analysis conducted for the Green Line EIS indicates that noise impacts during Monorail operation may be able to be avoided along the entire alignment through the development of specifications for train cars and system operations in the Final Request for Proposals (RFP) for the DBOM contractor.

To the extent that RFP specifications do not avoid all noise impacts, SMP will commit to develop a noise mitigation program in affected areas and for affected sensitive receivers. That program, which will be developed in concert with the City of Seattle, will consist of the following measures, implemented either singly or in concert, as needed to mitigate noise impacts:

- Reduce travel speeds as needed. Tire noise on the guideway will be reduced by approximately 2-3 dBA for each five mile per hour reduction in speed.
- Add mass and/or additional skirting to train cars if needed to reduce transmission of tire noise.
- Implement means such as improved glazing to reduce interior sound levels in sensitive uses (such as residences) that would otherwise be affected to block the transmission of noise into a building.

SMP will assess the need for mitigation measures and the effectiveness of mitigation measures implemented through a noise monitoring program, which will begin with the start of train operations.

5.4.5.2 Geographically-Specific Mitigation Measures

BALLARD

- Reduce sound levels from Green Line trains from 3 to 14 dBA at residential use locations along the Monorail alignment, if train car specifications still result in noise impacts that must be mitigated. Mitigation methods could include shielding of trains, reduction of speeds, treatments of guideway, or soundproofing residential structures by such methods as improved glazing.

INTERBAY

- For the highly sensitive land use at 3012 16th Avenue W (Friedman & Bruya, Inc.) a 20-foot separation from the closest support column to the existing building will be maintained (and has been assumed in all planning and analysis).

QUEEN ANNE/SEATTLE CENTER/BELLTOWN

- Implement noise mitigation measures for the Dalmasso Apartments, which the Green Line guideway will fly over.

- Conform to noise and vibration Mitigation Program outlined in this Final EIS for Monorail operations through the Seattle Center grounds.
- Design and locate station-based public address equipment so that station announcements are not audible inside adjoining or nearby facilities.
- Enter into operating agreement with Seattle Center to develop protocols for extraordinary situations (such as September 11 Vigil) in which reduced Monorail presence over Fountain Lawn area might be appropriate.

WEST SEATTLE

- Reduce sound levels from Green Line trains from 3 to 14 dBA at residential use locations along the Monorail alignment, if train car specifications still result in noise impacts that must be mitigated. Mitigation methods could include shielding of trains, reduction of speeds, treatments of guideway, or soundproofing residential structures by such methods as improved glazing.

5.4.6 Energy

5.4.6.1 Mitigation Measures Common to all Segments

Construction and operation of the Monorail is not anticipated to result in any significant adverse impacts to energy use. However, SMP will commit to the following measures to ensure that the Green Line is safe and energy-efficient:

- Incorporate electricity conservation measures in the specifications for electrical system and supply commensurate with SMP's adopted Sustainability Policy.
- Size electrical services for guideway power to handle single point service guideway power substation failures.
- Incorporate relevant City of Seattle and Washington State energy code requirements into system design per permitting.
- Use regenerative train braking system that supplies power to other trains on the system. Power generated by the regenerative braking system would not backflow to the Seattle City Light system.

5.4.7 Public Services and Utilities

5.4.7.1 Mitigation Measures Common to all Segments

Operation of the Monorail is not expected to result in any significant impacts to public services or utilities. However, SMP will commit to the following measures to minimize any impacts that may be experienced in these areas:

Public Services – Access and Response Times

- Alternatives in the street right-of-way will be determined by SMP Board and City of Seattle in the Transitway Agreement taking into account public service impacts. Where a center of street alignment is selected, work with Seattle Fire Department to provide mountable curbs or medians under the guideway to allow for U-turns.
- Provide left turns at intersections and the ability to make U-turns or circular routes along the alignment as needed, to be determined during design and permitting process.

- Coordinate project design with emergency response route planning, with medians designed as needed to allow emergency vehicles to cross.
- Install intelligent traffic control technology as needed.

Safety and Security

- Prepare and implement safety and security plan for Monorail construction and operations. (For additional discussion, please see Section 5.5, Construction Mitigation.)
- Develop and implement a Quality Manual and a Quality Assurance Program for operations.
- Design trains to minimize the possibility of accidental fire and include a minimal amount of combustible materials.
- Incorporate principles of Crime Prevention Through Environmental Design into station and structure design.
- Use security personnel and closed circuit television to provide security at stations as determined by safety and security plan.
- Prepare disaster preparedness plan in concert with local, regional, and federal authorities.
- Implement recommendations of Fire Safety Committee as approved in letters of concurrence.
- Develop special procedures in concert with the Seattle Fire Department to be used in the event of a fire to ensure the safety of firefighters and Green Line passengers.
- Comply with City of Seattle and Washington State energy, building, fire, and other applicable code requirements for all design aspects of Green Line systems, stations, Operations Center, and guideway.

Utilities

- Precisely locate all utilities within the work area, prior to any underground work being performed, and take all necessary steps to ensure the protection of both overhead and underground utilities from damage. All designs to relocate or alter Seattle Public Utilities-owned utilities must conform to current City of Seattle standard plans and specifications, and utilities that are relocated must be placed so as to avoid impacts on operation and maintenance activities. (More specific construction-related mitigation measures are discussed in Section 5.5, Construction Mitigations).
- Design columns to avoid interference with the operation and maintenance and repairs of existing utilities, including but not limited to (1) column placement shall allow for regular access to utilities for routine maintenance, and (2) column shafts shall be designed to allow excavation near columns to repair, replace, maintain, or modify existing utilities without affecting the structural integrity of the Monorail columns or worker safety. Where these conditions cannot be met, the utility will be relocated.
- Design electrical system to avoid stray current impacts on existing utilities.
- Provide special guideway foundations or additional vaults if there is less than three feet of clearance between a column foundation and a duct bank.
- Locate traction power substations away from any paved road section and above the level of the water table unless special precautions and protections have been taken.
- Provide Uninterruptible Power Supply devices for equipment requiring uninterrupted power.

- Next to the major underground power duct bank provide special guideway foundations or provide additional duct bank vault access.
- Design foundations so that special or extraordinary shoring is not required to access existing adjacent and underground existing utilities for maintenance.
- Work with the City to pursue opportunities to coordinate City-sponsored improvements with Monorail construction (e.g., fiber optic cable on Ballard Crossing).

5.4.7.2 Geographically-Specific Mitigation Measures

DOWNTOWN/PIONEER SQUARE

- Provide special guideway foundations or additional duct bank vault access next to the major underground power duct bank to avoid duct bank relocation impacts and to provide maintenance access to the power feeder conduits.

5.4.8 Parks and Recreation

5.4.8.1 Mitigation Measures Common to all Segments

SMP will ensure that all Monorail design takes context of parks into account consistent with the design guidelines. Construction and operation of the Monorail is not anticipated to have any impacts on parks.

5.4.9 Cultural Resources

5.4.9.1 Mitigation Measures Common to all Segments

SMP and the U.S. Coast Guard have been working with the State Historic Preservation Officer, City Historic Preservation Officer, Affected Tribes, preservation advocates, and community members to develop mitigation measures for a Memorandum of Agreement (MOA), which will set out specific measures to mitigate adverse effects on cultural resources. This section summarizes the mitigation measures developed to date. SMP is developing a budget for these mitigation measures, which will be included as part of the MOA. In several instances, where noted, mitigation measures are referenced in this section but then described in more detail below under Construction (Section 5.5).

During the environmental review for the Green Line project, an Area of Potential Effects (“APE”) was determined by USCG in consultation with the SHPO, City of Seattle, SMP and Affected Tribes. Historic resources were identified in the APE, and conceptual guideway and station designs were reviewed for adverse effects on those identified historic resources. The adverse effects were disclosed in the Draft and Final Green Line Environmental Impact Statement, including Appendix N and Appendix NN to those documents. Adverse effects would include visual and contextual effects in historic Pioneer Square and at various places along the Green Line guideway where the guideway would be visible from historic resources. A number of potential demolitions of historic resources, which would also be adverse effects, were disclosed in the Draft and Final EIS. The Preferred Alternative in the Final EIS sought to avoid demolition of historic resources where feasible. Of the potential demolitions identified for the proposed Green Line, only three demolitions of resources eligible for the NRHP are still in the Preferred Alternative. Those demolitions would include the Federal Reserve building, a single-family residential structure at 3036 16th Ave W, and the existing Seattle Center monorail. Potential demolitions at other locations, such as the Eitel Building, the Centennial Building, and the Dalmasso Apartments were avoided in development of the Preferred Alternative. The following stipulations will govern the implementation of the Green Line project.

- **Documentation of Adversely Affected Properties.** Documentation will be undertaken for identified historic resources that will be demolished or undergo significant physical alteration, including physical alteration of the property's site, due to construction of the Green Line. Documentation will include both web-based versions of the Washington SHPO inventory forms being made available for both the City of Seattle and State of Washington databases and archival film documentation prior to Green Line construction activities. In addition, the Washington SHPO inventory forms for all properties inventoried for the Green Line Section 106 consultation, along with a written description of the historic resources documented for the Green Line that builds on the Cultural Resources Technical Report, Appendix NN, from the Green Line Environmental Impact Statement, will be made available for both the City of Seattle and State of Washington databases.
- **Development of Multi-Media Education Program.** The Green Line has the potential to expand public awareness of, and public access to, the historic resources of Seattle in a new way. The Green Line will also continue the tradition of public transit, including monorails, in Seattle that has led to the growth of the neighborhoods connected by that transit. In mitigation of adverse effects, the Green Line would take advantage of its location near historically and architecturally significant resources in Seattle, and SMP will fund development of a curriculum and educational program that takes advantage of and builds on the information already prepared in the Section 106 consultation process. A potential framework for the curriculum and program is more thoroughly described in Appendix NN. Elements of the educational program would include the following:
 - Web-based and written materials for self-guided tours of historic resources near the Green Line stations
 - Partnering with schools to create films and videos related to the history of Seattle areas through which the Green Line passes
 - Web-based tours that are linked to SMP, Historic Seattle, and City of Seattle websites that allow visitors to experience historic structures near the Green Line corridor, and making that material available to other interested historic resource, museum, educational or community websites
 - Community-based materials that provide an overview of the historic resources in individual neighborhoods through which the Green Line passes
- **Kiosks and Displays in Stations Keyed to Educational Curriculum.** SMP will prepare and construct interpretive displays in the following six stations that will include historic photographs, information regarding historic resources related to that area of the Green Line corridor, and information regarding the community-based materials developed for the multi-media educational program: 15th Avenue NW/NW Market Street Station (Ballard), Fifth Avenue N/Broad Street Station (Seattle Center), Second Avenue/Pike Street Station (Downtown/Pike Market), Second Avenue/Yesler Way Station (Downtown/Pioneer Square), First Avenue S/S Lander Street Station (SODO), 42nd Ave SW/SW Alaska Street (West Seattle). Each station display will provide historical information and highlight architectural examples for the neighborhoods associated with that area of the Green Line. The displays will reference and incorporate materials developed for the multi-media education program. All other Green Line stations will have smaller displays referencing the resources in that area of the Green Line and directing patrons to the larger resources at other stations and on websites.
- **Pioneer Square Station Kiosks and Identity/Business Enhancement Program.** Because the Green Line will pass through historic Pioneer Square, at the stations in the Pioneer Square Historic District (Second Avenue/Yesler Way Station and King Street/Weller Street Station), the display will contain additional information regarding community resources and recreational

and/or shopping opportunities in the Pioneer Square neighborhood. Input of the community association in Pioneer Square will be sought in the design of these informational displays. Additionally, SMP will fund an effort to assist the Pioneer Square business community to create motivation for monorail passengers to access Pioneer Square using the Green Line and to maximize the potential for the Green Line to enhance the vitality of businesses in Pioneer Square.

- **Multi-Media Presentation: Monorail in Seattle Past, Present and Future.** Intermediate capacity public transit has played an important role in the creation of Seattle's urban centers. The Seattle Center monorail has helped shape Seattle's urban form and image in the past, and with the advent of the Green Line, monorail transit will play an ongoing role in the City's future image and development. SMP will fund a documentary on the role of monorail transit in the past, present and future of Seattle. This will include a web-based history of the monorail, as well as a portable multimedia presentation and supporting printed materials.
- **Station Design.** In order to mitigate potential adverse effects of station development in the Pioneer Square Historic District, the designs of the Second Avenue/Yesler Way Station and the King Street/Weller Street Station would be developed in consultation with the SHPO. Both the Second Avenue/Yesler Way Station and the King Street/Weller Street Station would obtain a Certificate of Approval from the City of Seattle Department of Neighborhoods and that department's Pioneer Square Preservation Board. The designs for both the Second Avenue/Yesler Way Station and the King Street/Weller Street Station, including any public spaces and landscaping, would be developed with the objective of ensuring that these station designs respond to the approaches and guidelines set forth in *The Secretary of Interior's Standards of the Treatment of Historic Properties* (U. S. Department of Interior, National Park Service). Both station designs should incorporate directional and district signage. One goal of the King Street/Weller Street Station design would be to minimize view and proximity impacts to the historic King Street Station to the extent practicable while preserving excellent pedestrian connections with the King Street Station and Weller Street Pedestrian Bridge.
- **Design Review and Approval Process.** SMP will provide plans for the Second Avenue/Yesler Way Station and the King Street/Weller Street Station at the same time that plans are provided to the City during the Certificate of Approval process (including both conceptual and final certificates of approval if applicable). SHPO will review such plans and provide comments to SMP and the City of Seattle Pioneer Square Preservation Board within thirty (30) days of receipt. Failure to respond within thirty days will constitute SHPO review of such plans. SMP shall not proceed with station construction until completion of SHPO review and appropriate local review by the City of Seattle.

Archaeological Resources and Traditional Cultural Properties

Monitoring and curation plans will be developed and implemented. Please see below under Cultural Resources - Construction (Section 5.5.8)

Construction Impacts

Construction impacts will be minimized. Please see below in Section 5.5.8 for more information.

National Register Multiple Property Nominations

The Green Line will have a visual effect on several different types of historic resources with varying architectural styles. One type of affected resource would be several brick or brick-clad apartment buildings (1910 – 1930) in the Seattle Center and Belltown areas of Seattle. Another type of affected resource would be Craftsman style buildings in the West Seattle area of Seattle. SMP would fund

multiple property nominations to the NRHP. Please see details below in Section 5.4.9.2, Geographically Specific Mitigation Measures.

5.4.9.2 Geographically-Specific Mitigation Measures

QUEEN ANNE/SEATTLE CENTER/BELLTOWN

Preservation of Existing Seattle Center Monorail Train Cars and Documentation of Existing Facilities

- The existing Seattle Center monorail train cars are protected by the City of Seattle ordinance, which requires a Certificate of Approval from the City of Seattle Landmarks Preservation Board in order to modify the interior or exterior finishes or configuration of the two Seattle Center monorail train cars.
- If the SMP is conveyed ownership of those train cars from the City of Seattle, SMP will donate at least one of those train cars to the Museum of History and Industry for that institution's use in an exhibit.
- SMP shall seek a curator or other museum to accept the second Seattle Center monorail train car if the Museum of History and Industry has inadequate space to accept both trains.

Lower Queen Anne/Belltown Apartment Buildings

- SMP will prepare a Multiple Property Nomination that will include brick or brick-clad apartment buildings that possess historical or architectural significance in the Lower Queen Anne and Belltown area of Seattle. In addition to the buildings of this type located in the Green Line APE, the nomination will include delineation of an area of Lower Queen Anne and Belltown, including the Green Line corridor, in which these buildings are an important element, with the final number to be determined by the City of Seattle Historic Preservation Officer.
- The nomination will include an historical overview pertaining to the development of the architectural styles of these apartment buildings within the Lower Queen Anne and Belltown neighborhoods. SMP will seek to have at least one of the property owners apply for listing on the NHRP.

DOWNTOWN/PIONEER SQUARE

Maintain, relocate or preserve existing granite curbs in the Pioneer Square Historic District.

WEST SEATTLE

West Seattle Craftsman Style Buildings

- SMP will prepare a Multiple Property Nomination that will include documentation of Craftsman Style buildings that have architectural or historic significance in the West Seattle area of Seattle. In addition to the buildings of this type located in the Green Line APE, the nomination will include delineation of an area of West Seattle, which would relate to the Green Line corridor from 35th Ave SW/SW Avalon Way to Morgan Junction, in which these buildings are an important element, with the final number to be determined by the City of Seattle Historic Preservation Officer.
- The nomination will include an historical overview pertaining to the development of the architectural styles of these buildings within the West Seattle neighborhood. SMP will seek to have at least one of the property owners apply for listing on the NHRP.

5.4.10 Environmental Health

5.4.10.1 Mitigation Measures Common to all Segments

Operation of the Monorail is not expected to result in any significant adverse impacts related to environmentally hazardous materials. However, SMP will commit to a series of mitigation measures to handle and dispose of hazardous materials that may be needed for Monorail operations:

Operations Center and Hazardous Materials

- Develop a hazardous materials management plan for use at the Operations Center to address management of hazardous materials as part of the Green Line's operation.
- Develop a worker training program for use at the Operations Center to address management of hazardous materials as part of the Green Line's operation.
- Develop documentation protocol for standard operating procedures for use at the Operations Center.
- Develop waste management standard operating procedures for use at the Operations Center to comply with applicable laws and regulations.
- Develop a spill control plan for use at the Operations Center.
- Store lubricants in an area where spills are contained, use in small quantities to minimize the impacts of a spill, capture after use and recycle by local waste-disposal firms.
- Store solvents in 'explosion-proof' rooms/cabinets, use in small quantities to minimize the impact of a spill, and use in well-ventilated areas in accordance with federal and state occupational safety regulations.
- Store fuels in an area where spills are contained and that is equipped with fire-suppression systems.
- Locate fueling facility for the maintenance and recovery vehicle separate from other maintenance work areas.
- Operate fueling for automotive vehicles (if provided) in accordance with federal and state regulations for fire safety and spill control.
- Use only detergents that may be drained into the City's sewer system, and recycle vehicle wash water if detergent quantities exceed allowable limits.
- Use only EPA-approved refrigerants and store, handle, recapture, and dispose of these in accordance with federal regulations.
- Minimize the generation of hazardous material dust through (1) limiting the use of such materials and (2) avoiding activities that create it. Where the generation of airborne dust is unavoidable, such as cleaning vehicle brakes or minor repairs to vehicle body panels, equipment will be used to capture the dust for proper disposal.
- Provide equipment to capture and remove any fumes generated by maintenance activities such as welding, in accordance with federal and state occupational safety regulations.

5.4.11 Earth

5.4.11.1 Mitigation Measures Common to all Segments

Seismic and Landslide Criteria

- Meet all applicable City of Seattle and State of Washington Seismic Design Criteria and the applicable provisions of the International Building Code for seismic criteria.
- Meet all applicable State and City codes for safety during earthquakes.
- Design all Green Line system facilities in accordance with SMP geotechnical studies that consider probabilistic seismic hazard analysis, Seattle fault rupture simulation, site-specific ground-motion response studies, and ground motion incoherency, as well as an analysis of seismic response for any dissimilar abutting structures at stations.
- Design all structures to resist displacements and induced lateral loads and/or subsurface soils to be improved. This may include stiff foundation elements, such as large-diameter piles or drilled shafts, to reduce deflection of the structure to tolerable limits; and may include soil improvement techniques such as densification by vibration, grouting and admixtures, and vibration and drainage.
- Mitigate construction activities in existing landslide hazard areas using an engineered structure (such as a retaining wall), regrading the slope to an allowable inclination, and/or installing drainage improvements.

5.4.12 Water

5.4.12.1 Mitigation Measures Common to all Segments

SMP will ensure that Monorail facilities comply with all applicable water quality regulations at the state and local level. (Please note that construction related mitigation measures for water are described below under Section 5.5.10.) In particular, SMP will:

- Provide flow control mitigation as required by permits and approvals to improve stormwater conditions in highly developed watersheds that did not have stormwater regulations meeting current standards in effect at the time of construction.
- Provide detention volume if the stormwater code is triggered and detention is required at various sites along the route. In conjunction with Seattle Public Utilities, SMP will propose a comprehensive strategy that is based on the hydrologic and hydraulic analysis of the Project and will evaluate cost effectiveness for providing detention for the portion of the sites that are affected. The sizes of the facilities will be calculated based on the City of Seattle Stormwater, Grading, and Drainage Control Code.
- Where required by City standards for public drainage systems and Drainage Code, detention may be required for portions of the street where pavement is removed and replaced, unless there is adequate capacity in the mainlines and the site is in close proximity to an outfall for discharge to the nearest receiving water body.

5.4.12.2 Geographically-Specific Mitigation Measures

BALLARD

- Provide detention volume based on amount of new and replaced impervious surfaces for Green Line stations in Ballard based on permit requirements.

INTERBAY

- Provide detention volume based on amount of new and replaced impervious surfaces for Green Line stations in Interbay based on permit requirements.
- Provide detention volume based on amount of new and replaced impervious surfaces for Operations Center based on permit requirements.

SEATTLE CENTER/QUEEN ANNE/BELLTOWN

- Provide detention volume based on amount of new and replaced impervious surfaces for Green Line stations in Seattle Center/Queen Anne/Belltown based on permit requirements.

DOWNTOWN/PIONEER SQUARE

- Provide detention volume based on amount of new and replaced impervious surfaces for Green Line stations in Downtown based on permit requirements.

SODO/CHINATOWN INTERNATIONAL DISTRICT/PIONEER SQUARE

- Provide detention volume based on amount of new and replaced impervious surfaces for Green Line stations in SODO based on permit requirements.

WEST SEATTLE

- Provide detention volume based on amount of new and replaced impervious surfaces for Green Line stations in West Seattle based on permit requirements.

5.4.13 Plants and Animals

5.4.13.1 Mitigation Measures Common to all Segments

Construction of the Green Line could result in impacts to habitat for plants and animals. SMP will commit to take steps to avoid sensitive areas, preserve habitat during construction, and replace trees and vegetation that must be removed during construction. Specific mitigation measures related to construction are described below under Section 5.5.11. In particular, SMP will:

- Compensate for lost habitat or habitat functions resulting from Green Line construction or operation, as required, to maintain existing habitat and habitat functions along the Green Line's alignment.
- Retain or replant street trees per Design Guidelines.

5.4.13.2 Geographically-Specific Mitigation Measures

BALLARD

- Provide mitigation as required, either in the form of improvement of existing habitat conditions, shoreline habitat improvement, or excavation of an existing upland area to construct new shallow water habitat and restore the reduced habitat functions. Aquatic habitat mitigation measures could include construction of natural habitat characteristics along one or both shorelines near the Ballard Crossing to improve habitat and survival for juvenile salmon to maintain existing in-water habitat and habitat functions within the Lake Washington Ship Canal.
- Develop a performance standard to locate support columns for the Ballard Crossing at least 50 feet waterward of the Ordinary High Water line to limit impacts of columns on existing biological production.

QUEEN ANNE/SEATTLE CENTER/BELLTOWN

- Develop a Landscape Mitigation Plan, including agreement on trees and landscaping to be removed, appraisal of trees to be removed, tree protection during construction, and use of mature trees as replacement trees.

5.4.14 Cumulative Impacts

5.4.14.1 Mitigation Measures Common to all Segments

Construction of the Green Line, combined with other major transportation and construction projects around the region, could lead to impacts to traffic flow and other areas of the environment. SMP will coordinate with other jurisdictions to address potential impacts resulting from cumulative impacts of multiple projects in the region.

5.5 CONSTRUCTION MITIGATION

The mitigation measures listed below will be implemented to ensure that any impacts resulting from the construction of the Green Line are carefully and thoughtfully mitigated. Throughout the construction process, two overriding objectives will guide the implementation of mitigation measures:

- Careful coordination of construction activities with local residents, businesses, property owners, the City of Seattle, Metro, and other public and permitting agencies, to ensure that work is carefully planned and scheduled, that those affected by construction are notified and involved, and that construction impacts on them are minimized. This coordination effort will include extensive public outreach and communication to address public complaints and to ensure a high level of public knowledge of, and to minimize impacts from, the Green Line. In addition, as part of its Mitigation Program, SMP and its DBOM Contractor will work closely with the City of Seattle to coordinate construction-related closures or detours, to determine work hours and time periods, and to agree to any holiday or other seasonal or event-related construction limitations.
- Safety and security, to ensure that the Green Line is constructed in a manner that is safe for workers, neighbors, and all others affected by the Project. SMP considers safety to be an integral part of the work of the Project. To that end, SMP will require its DBOM contractor to develop a Safety and Security Program that will meet the following objectives:
 - Plan and execute all work to prevent personal injury, property damage, and loss of production time.
 - Comply with federal, State, and local laws, ordinances, codes, regulations, and industry standards, along with SMP's protocols and procedures.
 - Minimize and control hazards and risks associated with the on-site construction activities of the Project.
 - Minimize personal injuries and property damage.
 - Develop a healthful and safe place to work.
 - Maintain a system of prompt detection and correction of unsafe practices and conditions, i.e., a hazard identification and correction tracking system in compliance with the hazardous materials management plan.
 - Establish and conduct training programs to stimulate and maintain the interest and cooperation of all employees.

- Ensure prompt notification and investigation of all accidents, incidents, or claims to determine the causes and to take necessary corrective action.
- Develop and coordinate emergency preparedness procedures and train all employees in protocol for communication in the event of an incident or injury.
- Develop a substance abuse policy and associated procedures

In addition to these two overriding objectives to the mitigation approach, overall Project construction will be conducted in a manner that encourages environmental sustainability, diversity and fair contracting, and high quality. The Facilities Technical Specifications prepared by SMP for its DBOM Contractor will be followed. The description below demonstrates how these overall Project objectives will be implemented through specific mitigation measures in each area of the environment.

5.5.1 Transportation - Construction

5.5.1.1 Mitigation Measures Common to all Segments

All mitigation measures will comply with local regulations governing construction traffic control and construction truck routing. SMP will finalize detailed construction mitigation plans in close coordination with the City of Seattle Department of Transportation, Metro, Sound Transit, Community Transit, and other affected agencies and organizations. Mitigation measures for traffic and freight impacts due to Monorail construction will include the following practices:

Transit Connections

- Coordinate with Metro Transit for changes to bus service or facilities, including the posting of informational signage before construction at existing transit stops that would be affected by construction to ensure that construction impacts and disruptions to bus facilities and service are minimized.
- With Metro Transit, develop mitigation measures for areas in which trolley bus service could be affected. Measures could include two- or three-day weekend closures, rerouting of trolley wires, mechanisms to push trolley buses through intersections, or temporary use of diesel buses.
- With Metro Transit, move trolley bus wires temporarily during construction of the guideway as needed. Locations where trolley wires may be affected during construction include:
 - NW Market Street at 15th Avenue NW
 - Fifth Avenue N
 - First Avenue N and W Harrison Street
 - Second Avenue between Pine and Pike Streets
 - Stewart Street between Second and Fifth Avenues
 - Second Avenue and S Main Street (and Waterfront Street Car)
 - S Jackson Street at Third Avenue S
 - Second Avenue and James Street
 - Second Avenue and Cherry Street
 - Second Avenue and Madison Street

- Second Avenue and Marion Street
- Second Avenue and Union Street
- With Metro Transit, develop a plan to minimize temporary closures or relocations of bus stops, layover zones, or other bus facilities. Coordinate all changes and receive approval from Metro Transit and City of Seattle.

Traffic Flow and Freight Mobility

- Coordinate lane closures during construction with the City of Seattle's traffic control section for appropriate times and lane takes. In some cases, the Police Department may be required to monitor construction activities and direct traffic at intersections affected by lane closures to provide for worker, pedestrian, and traffic safety.
- Schedule temporary traffic lane closures during off-peak hours to the extent possible to minimize delays during periods of higher traffic volumes.
- Schedule construction activities so as to minimize impacts to traffic operations.
- Temporarily move traffic lights as needed during construction of the guideway, in coordination with City of Seattle, to provide for safe and efficient traffic flow.
- Use lighted or reflective signage to direct drivers to truck haul routes to ensure visibility during nighttime work hours.
- Develop refined truck routing plans, including signage of streets and highways, necessary traffic control measures, and City permits for daytime trucking activity to minimize disruption to traffic flow.
- Cover potholes and open trenches during construction hours where possible, and provide k-rail or other protective barriers for trenches that must remain open to protect drivers from construction activity.
- Develop a multimedia public information program on construction activities (including print, radio, posted signs, and electronic web page) to provide information regarding street closures, hours of construction, business access, and parking impacts.
- Coordinate construction activities over or near railroad tracks with BNSF, UP, Amtrak, and Sound Transit to minimize the possibility for delays in rail transportation.
- Coordinate bridge construction with FAA to minimize the possibility for delays in air transportation.

Pedestrian Access and Safety

- Secure all work areas using appropriate pedestrian and vehicle traffic barriers, security fencing, and/or flaggers to provide for worker, pedestrian, and traffic safety.
- Follow standard construction safety measures, such as installing advance warning signs or highly visible construction barriers, and using flaggers to provide for worker, pedestrian, and traffic safety during construction.
- Post advance notice signs prior to construction in areas where surface construction activities would affect access to surrounding businesses to minimize impacts to surrounding businesses and traffic flow.
- Provide regular, written updates to assist public school officials in providing advance and ongoing notice to students and parents concerning construction activity near schools.

- Use temporary reflective truck prohibition signs on streets with a high likelihood of cut-through traffic to provide for pedestrian and traffic safety.
- Protect public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, shields, and adequate visibility. Sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, or exits that remain in use by the public must be kept clear of obstructions. Appropriate warnings, signs, and instructional safety signs must be posted to guard against harmful particles, flying materials, falling or moving materials, and equipment, hot liquids and gases, open flames, energized electric circuits, or other harmful exposures.
- Maintain pedestrian access to businesses during business hours, to the extent possible to provide safe and convenient pedestrian access and minimize impacts to businesses from Green Line construction.

Parking

- Provide temporary parking during construction staging or work activities as appropriate for uses that are parking-dependent and whose parking is temporarily displaced due to construction.
- Identify measures to reduce the need of street parking by construction workers, including carpool, bus pass, or designation of on- or off-site parking to minimize neighborhood parking impacts.
- Limit employee parking on construction sites to areas designated by SMP, with entry and exit to parking clearly designated to ensure safety of nearby residents and businesses and minimize disruptions to traffic flow.

5.5.1.2 Geographically-Specific Mitigation Measures

SEATTLE CENTER/QUEEN ANNE/BELLTOWN

- Maintain pedestrian access to Seattle Center as well as emergency vehicular access at all times and maintain emergency/fire existing from Seattle Center facilities throughout construction.

DOWNTOWN/PIONEER SQUARE

- Reach agreement with City about construction schedule during holiday periods.

SODO/CHINATOWN INTERNATIONAL DISTRICT/PIONEER SQUARE

- Maintain pedestrian access to Seahawks Stadium, Exhibition Center, Safeco Field, and Weller Street pedestrian bridge during business/event hours to the extent possible and coordinate construction activities to avoid special events or other time periods when pedestrian activity is particularly high.

5.5.2 Land Use and Neighborhoods and Economics - Construction

5.5.2.1 Mitigation Measures Common to all Segments

- Coordinate street sweeping services in construction areas with construction activity, particularly areas with surrounding residential and retail development to minimize impacts to surrounding businesses and residences.

- Maintain day-to-day contact with the community during construction, and provide community members with all project details that may be relevant to the public, public agencies, emergency service providers, businesses, etc.
- Coordinate with and provide information during construction to business groups, neighborhood associations, and property owners to minimize short-term construction-related impacts to businesses.
- Develop a communications program through which affected business owners can offer comments, concerns, and suggestions about construction activities.
- Develop a business outreach program for businesses affected by construction to help maintain the visibility of businesses in the affected areas and to inform customers of when major construction periods would be over, avoiding lingering perceptions of difficult access. Programs would vary by location, but could include initial communications and outreach, a project ombudsman, and ongoing coordination with construction management plans, focusing on issues such as:
 - Seasonal business issues relative to construction staging;
 - Issues related to daily business cycles such as freight activities and peak-hour traffic;
 - Access changes;
 - Parking changes;
 - Transit changes;
 - Safety for patrons and workers;
 - Vibration, noise and dust issues;
 - Special circumstances.
- Provide a 24-hour hotline during construction, with all contacts to the hotline logged into a database to address questions from community members and to provide information on construction activities.
- Provide businesses and residents along the alignment complaint/comment forms during construction to allow community members to express concerns.
- Develop a Business and Residential Impact Mitigation Plan to prepare responses to potential construction impacts.
- Develop access plan with businesses and residents, providing maps showing existing and planned patron and delivery and residential access during any construction period.
- Inform businesses and residents of any change to access that may affect them.

5.5.2.2 Geographically-Specific Mitigation Measures

SEATTLE CENTER/QUEEN ANNE/BELLTOWN

- Enter into a Construction Agreement defining site standards, construction constraints, communications, scheduling, and coordination for construction work on the Seattle Center campus.
- Per Construction Agreement, all Seattle Center-based utilities, including Seattle Center steam, chilled water, telecommunications, irrigation, and propane storage shall be protected during construction, repaired to original condition if damaged and relocated if necessary.

5.5.3 Visual Quality and Aesthetic Resources - Construction

5.5.3.1 Mitigation Measures Common to all Segments

- Maintain construction-related erosion control structures and remove as soon as the area is stabilized to minimize impacts from visually obtrusive erosion control devices such as silt fences, plastic ground cover, and straw bales.
- Shield temporary lighting during construction to reduce spillover lighting and minimize impacts from construction lighting on nearby residences and businesses.
- Locate stockpile areas in less visually sensitive areas, when feasible, and in areas not visible from the road or to residents and businesses to minimize visually obtrusive stockpiling of excavated material and staging areas used for equipment storage and construction materials.

5.5.4 Air Quality - Construction

5.5.4.1 Mitigation Measures Common to all Segments

- Keep roadway as clean as possible during construction by using street sweepers and wheel washes to minimize off-site tracking to minimize reduced visibility resulting from dust, exhaust, and airborne debris in areas of active construction.
- Apply water or suppressants to exposed soils and other materials as needed during dry periods to minimize impacts to air quality resulting from dust, exhaust, and airborne debris in areas of active construction.
- Maintain construction equipment properly to minimize unnecessary exhaust.
- Wash trucks and equipment regularly to prevent the transport of dirt and dust from construction areas onto nearby roads and thereby minimize impacts to air quality.
- Investigate the use of low sulfur fuel where possible.

5.5.5 Noise and Vibration - Construction

5.5.5.1 Mitigation Measures Common to all Segments

Vibration

- Assess structural integrity of foundations and structures adjacent to planned drilling to be assessed prior to construction work. Mitigation measures to be employed could include one or more of the following as needed:
 - Modifying the drilling or construction technique;
 - Installing recharge wells;
 - Adding support to adjacent structures.
- Underground Utilities: Depending on the soil conditions, pipe material (with vitrified clay, concrete, PC, and cast iron all being sensitive), and proximity of the construction site to the location of utilities, a vibration monitoring program to measure vertical and lateral movement would be implemented when pile drivers or pavement braking equipment are used within 25 feet of existing underground utilities. The frequency, duration, and amplitude of the vibration levels would be recorded to verify that the vibration, velocity levels are below 0.5 inch per second in conjunction with visual inspections with officials from the utility company. If vibration levels exceed the threshold, work would stop and would not begin again until steps proposed to stabilize

and/or prevent damage to the designated utilities were approved. Auger drilling could be considered if vibration levels from pile driving exceed the vibration threshold.

- **Extremely Fragile Structures:** A vibration monitoring and mitigation program will be undertaken for extremely fragile structures. Please see below in Section 5.5.8 for more information.
- Minimize the impacts from excavation activities through use of adequate shoring and by following the mitigation measures required for construction vibration and settlement to ensure safety of all excavation sites and structural integrity of nearby structures.
- Inspect areaways and other historic resources listed on or eligible for the National Register of Historic Places, the Washington Heritage Register, and Seattle City Landmarks designated in the Final EIS as Fragile or Extremely Fragile by a team of professionals, which could include as appropriate a vibration specialist, structural engineer, and architectural historian for an inventory of existing conditions. Where the survey finds it necessary based on building condition and final construction details, damage avoidance measures including shoring, bracing, or other appropriate measures will be implemented prior to construction.
- Monitor structural and vibration effects to historic resources (particularly unreinforced masonry, large concrete block, and load-bearing timber structures) during construction to ensure the efficacy of damage avoidance measures.

Noise

- Comply with City's construction noise guidelines to control and/or mitigate noise from construction except where variance is approved by the City.
- Implement noise control measures as needed during construction, including one or more of the following:
 - Portable noise barriers around loud equipment;
 - Specifications about orientation, setbacks, and timing of loud operations;
 - Timing restrictions for idling equipment;
 - Use of non-standard (e.g. strobe light and/or reduced volume) backup alarms;
 - Access routes to staging areas to minimize exposure of nearby sensitive use properties;
 - Complaint hotline for reporting noise issues and problems.

5.5.5.2 Geographically-Specific Mitigation Measures

DOWNTOWN/PIONEER SQUARE

- Carry out monitoring for structural and vibration effects to historical resources (particularly unreinforced masonry, large concrete block, and load-bearing timber structures) along Second Avenue to determine if vibration mitigation is required.
- Conduct archaeological monitoring during construction in Pioneer Square to respond appropriately if a discovery is made.

5.5.6 Public Services and Utilities - Construction

5.5.6.1 Mitigation Measures Common to all Segments

Public Services

- Provide Seattle Department of Transportation with plans for street closures, detours, and other temporary street capacity restrictions to ensure that adequate service levels and access to public services are maintained during construction.
- Include emergency service providers in planning for street closures, detours, and other temporary street capacity restrictions to minimize impacts on response times for emergency response vehicles during construction.
- Work with Seattle Police Department to provide uniformed officers to assist construction flagging staff at intersections where traffic signals are to be countermanded during construction, as required by agreement with City of Seattle to ensure that construction site and surrounding traffic flows remain relatively constant, provide coordination for emergency personnel responding to events in the proximity of construction, and as per requirement in the Seattle Traffic Control Manual for In-Street Work.

Utilities

- Before final design and construction, field verify (by potholing where appropriate) the exact locations and depths of underground utilities and conduct condition checks as necessary. Provide basemaps and soil reports to utilities prior to the start of design.
- Coordinate closely with utility providers during the design and construction phase, developing a customer service plan with utilities, as needed, to address planned and unplanned interruptions. Determination of acceptable designs and new locations will be approved by utility providers prior to construction.
- Comply with current Washington State Department of Health Regulations, current City of Seattle Water Quality Checklist (during construction) and current City of Seattle Standard Plans and Specifications on disinfecting, flushing and sampling of new water mains.
- Develop a customer service plan to reduce impacts on customers by coordinating planned outages, incorporating a contingency plan for unplanned outages, and developing a framework for coordination between utilities, DBOM contractor, SMP and the affected property owner, as well as a framework to handle questions and claims.
- Provide protective measures such as pipe and conduit support systems, vibration and settlement monitoring, trench sheeting and shoring during construction to avoid potential damage to utilities.
- Coordinate with utilities to develop a plan for access to utilities during construction, including but not limited to hydrants, valves, meters, and manholes.
- Work with the City of Seattle and other utilities to take advantage of opportunities to consolidate utilities (although SMP would not be responsible to fund undergrounding or relocation of utilities that are not required to be relocated by placement of the Green Line).
- If inadvertent damage to underground utilities occurs during construction, the DBOM contractor will contact the appropriate utility purveyor immediately to restore service.

5.5.6.2 Geographically-Specific Mitigation Measures

DOWNTOWN/PIONEER SQUARE

- Design columns to avoid impacts to large water services and hydrants.
- Coordinate with utilities to maintain garbage and recycling services during construction.

WEST SEATTLE

- Coordinate Delridge-area utility relocation with Nucor steel plant and coordinate Nucor access and maintenance needs to avoid down time at the plant.

5.5.7 Parks and Recreation - Construction

5.5.7.1 Mitigation Measures Common to all Segments

- Include provisions for safe access to parks and recreational resources in construction plans.

5.5.8 Cultural Resources – Construction

5.5.8.1 Mitigation Measures Common to all Segments

Archaeological Resources and Traditional Cultural Properties.

- SMP will develop an Archaeological Resources Treatment Plan (“Treatment Plan”), consistent with the treatment plan provisions set forth in the Green Line EIS, which were reviewed in consultation with the USCG, SHPO, and affected Tribal Governments. The Treatment Plan will provide for the mitigation of anticipated effects resulting from construction of the Green Line on eligible archaeological resources. The Archaeological Treatment Plan will include the entire Green Line Project. The Green Line EIS and Cultural Resources appendices have identified the locations along the Green Line where eligible archaeological resources could likely be encountered. The Treatment Plan will be consistent with the Green Line EIS and the Secretary of Interior’s Standards and Guidelines for Identification of Historic Properties (48 CFR 44716-44742) and Standards for Archaeological Documentation (48 CFR 44734-44737), the Council’s Handbook Treatment of Archaeological Properties (Advisory Council on Historic Preservation, draft 1980), applicable state regulations, and will be responsive to contemporary professional standards.
- SMP will prepare Supplemental Treatment Plans (“Supplements”) for eligible archaeological resources identified during construction phases subsequent to approval of the Treatment Plan. Supplements will be approved by the State Historic Preservation Officer and U.S. Coast Guard. Each Supplement will modify the Treatment Plan to be site and property specific. Additional information in Supplements shall include:
 - The archaeological resources discovered or to be affected in the specified project segment and the nature of those effects.
 - Proposed measures to mitigate or avoid adverse effects to archaeological resources identified.
- Where data recovery is proposed to mitigate an affected eligible resource, the supplement will contain:
 - Specific research questions and an explanation of their relevance to the overall research goals as established in the Treatment Plan.
 - Site-specific fieldwork and analytical strategies that will be employed in data recovery.

- Methods for securing the site against vandalism, if not already protected.
- Schedule for submission of progress, summary and other reports to USCG and SHPO.

Monitoring Plan for Construction

- SMP, in consultation with USCG and SHPO, will prepare an Archaeological Resources Monitoring Plan to ensure compliance with the Treatment Plan and Supplements.
- The Monitoring Plan will specify where construction excavation will be monitored in those areas that have been identified in the Green Line EIS as having a likelihood of containing eligible resources.
- During the construction phase, monthly progress reports regarding monitoring activities will be submitted to SHPO.
- The Archaeological Resources Monitoring Plan shall address actions to be taken if previously unidentified archaeological resources are discovered during construction.

Curation

- SMP shall ensure that all records and materials resulting from identification and data recovery efforts are curated in accordance with 36 CFR 79. SMP will also consider any claims or conditions recognized as a result of consultation with affected Tribal Governments according to the provisions of NAGPRA and NHPA. All material to be returned to their owners or otherwise repatriated will be maintained in accordance with 36 CFR 79 and Tribal claims or conditions until their analysis is complete and they are repatriated. SMP will facilitate the involvement of appropriate Native American Tribal Governments in the decisions related to final disposition of archaeological artifacts.

Native American Human Remains

- In the case of inadvertent discovery of Native American burials or Native American human remains during construction, archaeological fieldwork, or laboratory analysis, SMP will attempt to identify the appropriate Native American Tribal Governments with cultural affiliation to the burial(s) or human remains and consult with them over the treatment of remains in accordance with applicable Federal and state law and tribal policy, and in accordance with procedures identified in the Archaeological Resources Treatment Plan. SMP, in consultation with affected Native American Tribal Governments, will ensure that any such human remains encountered during construction of the Green Line Project are treated in a respectful manner.

Minimization of Construction Impacts

In order to avoid any potential adverse effect on historic properties situated in the immediate vicinity of project construction and/or construction staging activity, USCG shall require that the following measures, or other measures where applicable, are taken when necessary to minimize construction related impacts on historic properties.

- Use rigid support of excavation structures (shoring) to minimize the movement of the ground.
- Stabilize the ground through cementious or chemical grouts, freezing the ground, or other modification techniques.
- Facades of historic buildings adjacent to the Green Line construction areas will be protected from accumulation of excessive dirt, or will be cleaned in an appropriate manner at the conclusion of construction.

- Access to all historic properties will be maintained except for unavoidable short periods during construction.
- Temporary construction sheds, barricades, or material storage will be located so as to avoid obscuring significant views of historic properties.
- The Project will comply with the City of Seattle noise restrictions for construction and equipment operation (SMC 25.08.425) and any variance granted specifically for this Project.
- Maintain, relocate or preserve existing granite curbs in the Pioneer Square Historic District.
- Schedule construction activities so as to minimize impacts to traffic operations.
- In historic districts, protect public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, shields, and adequate visibility. Keep sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, or exits that remain in use by the public clear of obstructions. Post appropriate warnings, signs and instructional safety signs.
- In historic districts, maintain pedestrian access to businesses during business hours to the extent possible.
- Maintain day-to-day contact with the owners and/or tenants of historic properties during construction and provide community members with project details that may be relevant to the operation of that property or the businesses in that property.
- Assess structural integrity of historic properties' foundations and structures adjacent to planned construction work. Employ mitigation measures to prevent structural damage to historic structures. Potential mitigation measures could include: modifying the drilling or construction technique, installing recharge wells, and/or adding support to the adjacent structures.
- Minimize the impacts from any excavation activities through use of adequate shoring or other construction techniques to prevent settling impacts to historic structures.
- Prior to construction, inspect areaways and other historic resources listed on or eligible for the National Register of Historic Places, the Washington Heritage Register and Seattle City Landmarks and designated in the Final EIS as Fragile or Extremely Fragile by a team of professionals which could include as appropriate a vibration specialist, structural engineer, and architectural historian for an inventory of existing conditions. Where the survey finds it necessary based on building condition and final construction details, damage avoidance measures including shoring, bracing, or other appropriate measures will be implemented prior to construction.
- Monitoring of Fragile and Extremely Fragile Structures: A vibration monitoring program would be implemented for all activities that could produce vibration levels meeting FTA Guidelines for extremely fragile historic buildings and extremely fragile historic buildings (100 VdB re 1 micro/inch/sec and 95 VdB re 1 micro inch/sec respectively) as described in Appendix NN to the Green Line EIS. Vibration monitoring would be undertaken when impact pile driving within specific distances of fragile and extremely fragile historic buildings. Depending on soil conditions, monitoring would occur when impact pile driving occurs within 150 feet of fragile historic structures and within 250 feet of extremely fragile historic structures, in consultation of SHPO. Vibration monitoring of sensitive and extremely sensitive historic buildings during any pile driving activity for Green Line construction would be similar to vibration monitoring that occurred during construction of Safeco Field, Seahawks Stadium, and the implosion of the Kingdome. Any damage to historic resources that is documented as a result of construction

monitoring and caused by the construction of the Green Line would be repaired according to the technical guidance listed in the NPS Historic Preservation Briefs for specific rehabilitation issues.

- If the results of monitoring indicate significant impacts to the monitored historic structure, work would be stopped and mitigating measures to present vibration impacts would be undertaken. Mitigation measures could be changed construction techniques (such as augured piles), soil augmentation, or support for the affected historic structure.

5.5.8.2 Geographically-Specific Mitigation Measures

BALLARD

- An Archaeological Treatment Plan, as noted above, will be developed and implemented, and an archaeological monitoring plan will be implemented during bridge construction.

5.5.9 Environmental Health – Construction

5.5.9.1 Mitigation Measures Common to all Segments

- Develop and implement an Environmental Site Assessment program to assess potential for hazardous materials (in soil, water, sediment, and building materials) that may be encountered during construction.
- Develop and implement plans for addressing hazardous materials in soil, water, and sediments that may be encountered during construction in accordance with environmental laws and regulations.
- Develop and implement plans for pre-demolition and demolition abatement of hazardous building materials (e.g., asbestos, lead-based paint, PCB-light ballasts) in accordance with appropriate environmental laws and regulations.
- Develop and implement a spill prevention and control program:
 - Any discharge of oil, fuel or chemicals into state waters, or onto land with a potential for entry into state waters is prohibited.
 - All oil, fuel or chemical storage tanks shall be diked and located on impervious surfaces so as to prevent spills from escaping into surface waters or ground waters of the state.
 - Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters. Proper security shall be maintained to prevent vandalism.
 - In the event of a discharge of oil, fuel or chemicals into a water body, containment and clean-up efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work and shall follow the approved project health and safety program. Clean up shall include proper disposal of any spilled material and used clean-up materials.
 - No emulsifiers or dispersants are to be used in waters of the state.

5.5.9.2 Geographically-Specific Mitigation

BALLARD

- Designate sediments that are removed for disposal during construction from the Lake Washington Ship Canal as solid or dangerous waste, as required by applicable regulations. Manage and dispose of sediments in accordance with applicable regulations.

- Carry out transportation and disposal of waste materials including dangerous waste according to applicable regulations.

INTERBAY/MAGNOLIA

- Designate sediments from the Lake Washington Ship Canal as solid or dangerous waste in accordance with applicable regulations. Manage and dispose of sediments in accordance with applicable regulations.
- Carry out transportation and disposal of waste materials including dangerous waste according to applicable regulations.
- Develop and implement a plan prior to construction for subsurface work on or adjacent to a landfill. Plan would contain guidelines for handling, testing, and disposing of excavated material that may be contaminated. Mitigation measures could include some or all of the following:
 - Use appropriate drilling method to install drilled shafts through fill material that may contain obstructions or hazardous materials.
 - Monitoring the work zone for methane when drilling or driving shafts.
- Implement methane control measures during design and construction of Green Line structures within 1,000 feet of a landfill.

WEST SEATTLE

- Best management practices will be used to minimize disturbance to contaminated soils at the Nucor steel site, and any contaminated soils that are disturbed during construction will be appropriately handled and disposed.

5.5.10 Water - Construction

5.5.10.1 Mitigation Measures Common to all Segments

- Comply with all applicable water quality regulations at the state and local level.
- Employ construction techniques to minimize the amount of sediment and contaminants in discharge water prior to disposal.
- Implement erosion control measures to minimize construction impacts to the green space and riparian areas and aquatic habitat and biota.
- Implement Temporary Erosion and Sedimentation Control (TESC) measures during construction for all construction activities. Measures to include a Stormwater Pollution Prevention Plan so as to qualify the project for an NPDES Construction Stormwater Permit. The following Best Management Practices may be included as needed:
 - Mark clearing limits
 - Establish construction access
 - Control flow rates
 - Install sediment controls
 - Stabilize soils
 - Protect slopes
 - Protect drain inlets

- Stabilize channels and outlets
- Control pollutants
- Control dewatering
- Maintain Best Management Practices
- Manage the project
- Use temporary sediment and erosion control best management practices to prevent contaminated soils from being washed off-site during soil excavation and removal activities.

5.5.10.2 Geographically-Specific Mitigation Measures

BALLARD

- Excavated sediments will be contained in Baker tanks or other appropriate containment devices and will be characterized and disposed of in accordance with state, federal, and local requirements.
- Protocols for evaluation, handling, and treatment/disposal will be developed prior to the initiation of in-water work.
- Specific Best Management Practices will be used to make sure that methods are used to minimize disturbance of bottom sediments.
- Dewatering discharges would be handled in one of four ways: 1) Uncontaminated water could be discharged back into the water, after testing to confirm suitability for discharge; 2) Uncontaminated or slightly contaminated water could be discharged to the sewer system, subject to meeting regulatory requirements; 3) Contaminated or highly turbid water could be pumped to a pond or Baker tank for appropriate treatment prior to discharge to the water and/or the sewer system; and 4) Highly contaminated water could be shipped off-site for disposal in an approved hazardous waste treatment facility.
- Whenever overwater construction activities will generate debris that could enter surface waters, tarps or other containment material will be used to prevent debris from entering the water. If tarps cannot be used (because of the location or type of structure), a containment boom will be placed around the work area to capture debris. Any debris in the containment boom will be removed by the end of the workday or when the boom is removed, whichever occurs first. Captured material will be disposed of at an upland disposal site.
- Coordinate barging with permit agencies, resource agencies, Port of Seattle, and Tribes to avoid conflicts with existing vessel traffic and the Muckleshoot Tribe's peak fishing season.
- Design bridge column foundations to minimize disturbance of sediments from excavation process to minimize disruption of sediments and to isolate sediments that may be stirred up during construction.
- Dispose of construction dewatering to storm sewer in accordance with NPDES permit or to sanitary sewer under appropriate permit and regulations.
- Meet all requirements of permits, including the Record of Decision (ROD), 401 Certification, NPDES, as well as any conditions developed through consultation with agencies, and conditions of DNR's Aquatic Lands Lease.
- Unless geotechnical information requires the use of an impact hammer, a vibratory hammer will be used to install piling to the extent possible.

- A pile cleaner would be used over piling supporting temporary work trestles (to be removed after construction) to minimize sediments that may adhere to any piling during pile removal.
- Comply with water quality restrictions imposed by the Washington Department of Ecology (Chapter 173-201A WAC), which specifies a mixing zone beyond which water quality standards cannot be exceeded. Compliance with Ecology's standards is intended to ensure that fish and aquatic life are being protected to the extent feasible and practical. Monitoring of water quality would occur during bridge construction.
- Construction barges will have a row of hay or straw bales, filter fabric placed around the perimeter of the barge, or flat deck barges will be modified (e.g., low walls built on the sites) to contain materials, and prevent sediments and turbid waters from entering surface waters.
- An oil containment boom will be available on site to collect debris if needed. Oil-absorbent materials will be employed if a visible sheen is observed. The boom will remain in place until all oily material and floating debris have been collected and sheens have dissipated.
- A Stormwater Pollution Prevention Plan (SWPPP) will detail best management practices (BMPs) to prevent stormwater pollution. BMPs to be implemented during construction will address clearing limits, construction access, flow rates, sediment controls, soil stabilization, slope protection, protection of drainage inlets, controlling pollutants, dewatering, maintaining BMPs and managing the project (i.e., employee training and development of an emergency/contingency plan).

WEST SEATTLE

- Use formwork and/or a work platform as needed for construction on the West Seattle Bridge to prevent any spills from concrete work from falling into the Duwamish Waterway.
- Unless geotechnical information requires the use of an impact hammer, a vibratory hammer will be used to install piling to the extent possible to minimize potential impacts to fisheries resources.
- A pile cleaner would be used over piling supporting temporary work trestles (to be removed after construction) to minimize sediments that may adhere to any piling during pile removal.
- Construction barges will have a row of hay or straw bales, filter fabric placed around the perimeter of the barge, or flat deck barges will be modified (e.g., low walls built on the sites) to contain materials, and prevent sediments and turbid waters from entering surface waters.
- An oil containment boom will be available on site to collect debris if needed. Oil-absorbent materials will be employed if a visible sheen is observed. The boom will remain in place until an oily sheen is observed. The boom will remain in place until all oily material and floating debris has been collected and sheens have dissipated.
- Whenever overwater construction activities will generate debris that could enter surface waters, tarps or other containment material will be used to prevent debris from entering the water. If tarps cannot be used (because of the location or type of structure), a containment boom will be placed around the work area to capture debris. Any debris in the containment boom will be removed by the end of the work day or when the boom is removed, whichever occurs first. Captured material will be disposed of at an upland disposal site.
- A Stormwater Pollution Prevention Plan (SWPPP) will detail best management practices (BMPs) to prevent stormwater pollution. BMPs to be implemented during construction will address clearing limits, construction access, flow rates, sediment controls, soil stabilization, slope protection, protection of drainage inlets, controlling pollutants, dewatering, maintaining BMPs and managing the project (i.e., employee training and development of an emergency/contingency plan).

5.5.11 Plants and Animals - Construction

5.5.11.1 Mitigation Measures Common to all Segments

- Replace street trees and other vegetation removed during construction as soon as practicable.

5.5.11.2 Geographically-Specific Mitigation Measures

BALLARD

- Use appropriate mitigations in accordance with permits and approvals when constructing piers within the Ship Canal, including when driving piles, to minimize dispersion of potentially contaminated sediments and to reduce energy transmission below levels that would injure hearing in fish or produce tissue damage in swim bladders.
- Work in the Ship Canal will comply with applicable fish windows established by WDFW, NOAA, U.S. Fish and Wildlife, and U.S. Army Corps of Engineers for protection of listed species.
- Pile driving will be conducted in the dewatered coffer dams to minimize potential impacts to fisheries resources.
- Landscaped areas within the shoreline zone disturbed during construction will be hydroseeded or otherwise stabilized to minimize the potential for soils to enter surface waters and affect fisheries habitat.
- Anchor buoys will be retrieved via boat instead of dragging across the substrate to minimize the potential for disturbance of aquatic habitat.

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- The work window for this location will comply with applicable fish window established by WDFW, NOAA, U.S. fish and Wildlife, and U.S. Army Corps of Engineers for protection of listed species.

5.6 MITIGATION MONITORING PROGRAM

Because of the complexity of the Green Line Project, SMP will develop a monitoring program during final design, construction, and start-up. The purpose of the mitigation monitoring program is: (1) to assist SMP agency in fulfilling its commitments set forth in the many environmental documents, and (2) to give the U.S. Coast Guard and other resource and permitting agencies a means of checking that its mitigation requirements are, in fact, being met.

The monitoring program will consist of three activities:

1. The maintenance and updating of the list or database of mitigation commitments by SMP.

The Final EIS and Record of Decision (ROD), perhaps with added specificity in the mitigation descriptions, or with references to appropriate pages of the environmental documents where the added specificity may be found, should serve as an initial version of the mitigation database. As various required consultations are conducted, the mitigation actions resulting from those consultations would be added to the database. For example, the MOA resulting from Section 106 calls for consultation with SHPO on various design issues, and the mitigation of parking impacts requires consultation with local jurisdictions, etc. Additional updates may be needed as various Federal permits, such as NPDES or

Section 404 permits, are received. Any conditions on those permits relating to mitigation of project impacts would be added to the database.

2. Tracking the status of implementation of the mitigation measures by SMP.

SMP will work with permitting and resource agencies to develop a Monorail Monitor and Maintain Working Group (MMWG) to be responsible for monitoring the implementing each measure, based on the means and timing of implementation stated in the Mitigation Program. The current status of the implementation of each measure would be indicated.

Implementation of mitigations would occur according to appropriate timing as indicated in the Mitigation Summary Table and in any relevant permits and approval. Depending on the specific mitigation, the timing could be during design, during construction, prior to operation, or after the commencement of operations. The MMWG would monitor the implementation and effectiveness of mitigation measures. The MMWG would at a minimum be comprised of representatives from SMP, SMP's contractor, the City of Seattle, and Metro and other appropriate participants. This group would oversee:

- Implementation of all mitigation measures included in the mitigation program;
- Evaluation and responses to all complaints and citizen concerns;
- Monitoring follow-up surveys undertaken to assess impacts; and to make certain that mitigation programs are effective and can be modified to control impacts in a cost-effective manner; and
- Evaluation and implement any long-term access and design enhancements identified by SMP.

SMP will provide staff to support the MMWG. The MMWG will meet on a regular schedule and may establish technical working groups for various disciplines or use expert consultants.

3. Periodic review by SMP and the U.S. Coast Guard and/or other resource or permitting agencies.

SMP will periodically review with relevant agencies the status of the implementation of the mitigation actions.

The mitigation monitoring program is intended to ensure that mitigation commitments are being implemented in an effective manner.

Green Line Access and Design Enhancements

SMP and the City of Seattle will collaborate on potential project access and design enhancements. These project enhancements are not mitigation measures required at construction to address project impacts, but would be project design changes proposed by SMP, after consultation with stakeholders, and which the City and SMP agree to be desirable to support community, City and SMP goals for Green Line operation. SMP and the City would agree to cooperatively pursue implementation of the enhancements. Examples could include pedestrian or transit access improvements not required to address impacts, but which would improve Green Line design, function and interconnectivity. The MMWG would review project access and design enhancements on an annual basis, evaluating design and constructability issues, establish timelines for implementation, and suggest financing alternatives as appropriate. SMP and the City intend to establish a preliminary list of access and design enhancements to consider in the Transitway Agreement.